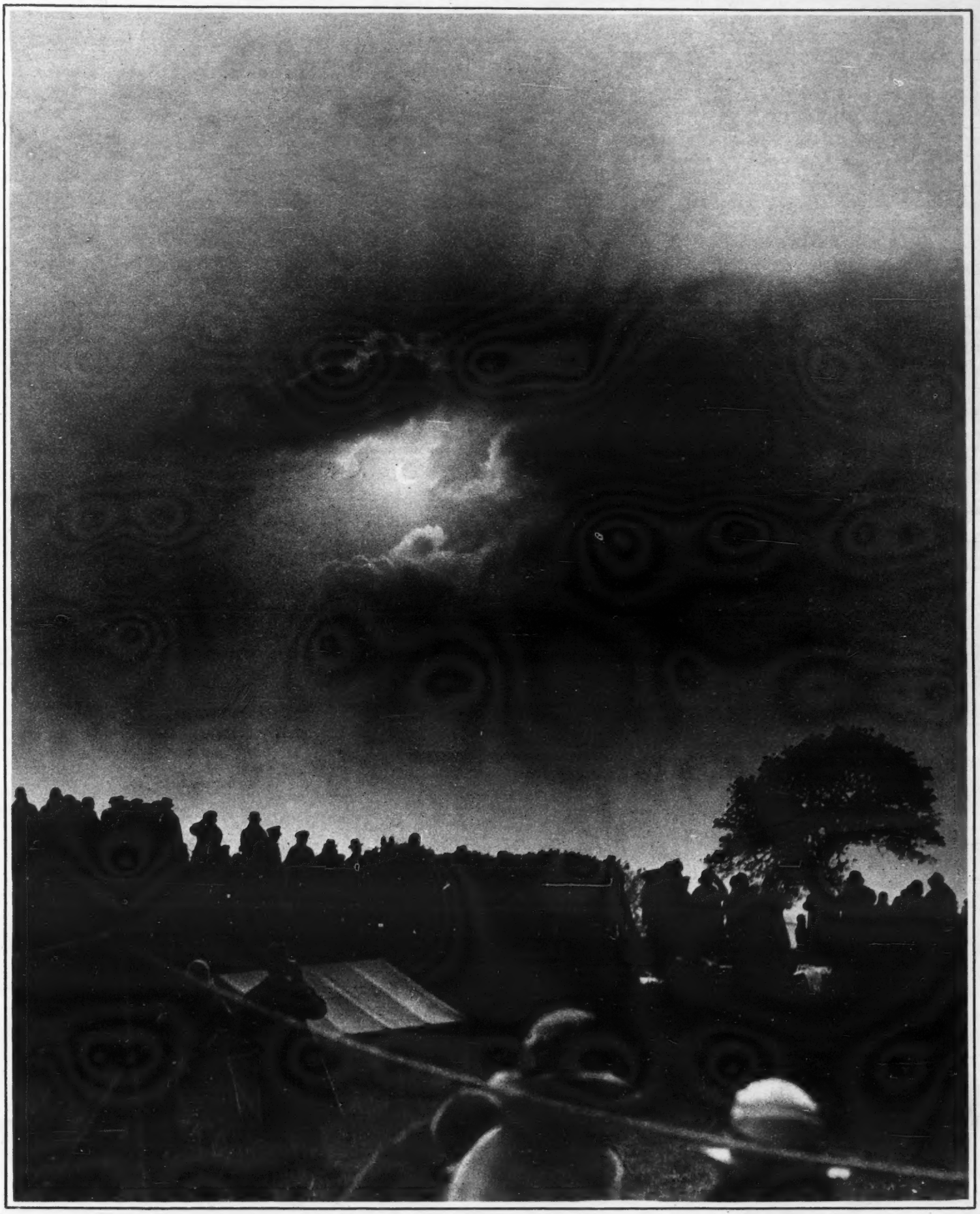
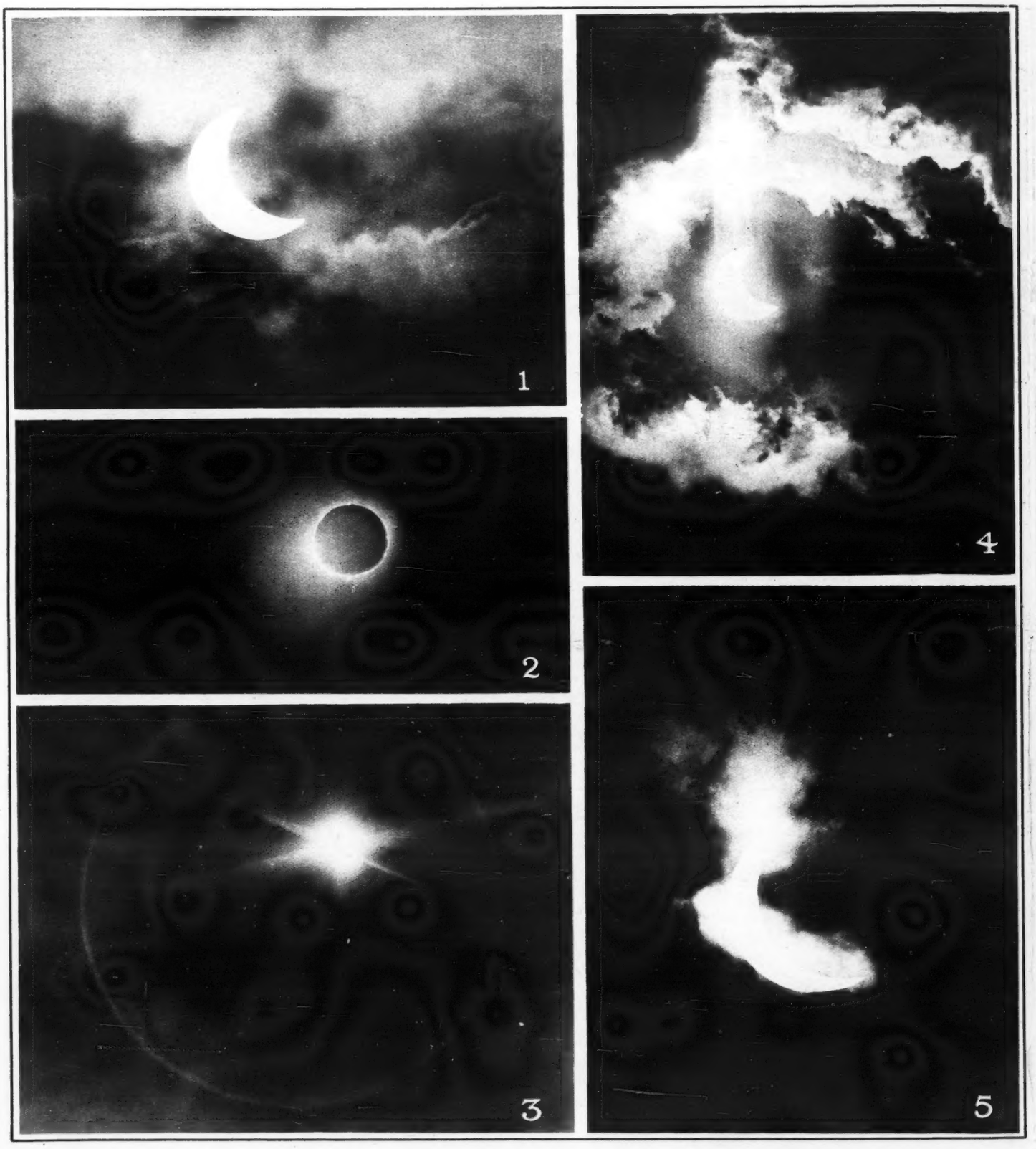
THE ECLIPSE OF THE SUN: AN AWE-INSPIRING SPECTACLE.



THE MOON'S DARK DISC MOVING DOWNWARD (FROM RIGHT TO LEFT) ACROSS THE DAZZLING FACE OF THE SUN: A WONDERFUL PHOTOGRAPH TAKEN AT GIGGLESWICK, A FEW MINUTES BEFORE TOTALITY, ON JUNE 29.

Though London and the South of England saw nothing of the eclipse on June 29, owing to clouds and rain, the watchers on the Yorkshire moors were more fortunate. At Giggleswick, where the Astronomer Royal (Sir Frank Dyson) and his party from Greenwich Observatory had taken up their position, a timely shifting of the clouds enabled them to obtain a glorious view of the great phenomenon. Sir Frank Dyson, describing it, said: "I thought the clouds would never break. Then suddenly, three minutes before the wonderful totality, the gap came and the sun stood out a clear crescent. The time of totality (he added) was three seconds late. That is a provisional statement, however; we have still to make sure of it. The actual period of totality—23 seconds—was exactly what we had calculated." This was the first total eclipse of the sun visible in the British Isles for over two centuries, and will not recur here until 1999.

THE ECLIPSE: THE ASTRONOMER ROYAL'S OFFICIAL



1, 3, 4, AND 5. VARIOUS PHASES OF THE TOTAL ECLIPSE OF THE SUN AS RECORDED BY PHOTOGRAPHY.
2. "BAILY'S BEADS," AS SEEN AT THE SECOND BEFORE TOTALITY.

The total eclipse of the sun in the early morning of June 29—the first seen in this country for over two hundred years, and the last to be visible here till 1999—afforded a wonderful and awe-inspiring spectacle to the watchers on the totality belt in the north of England who were fortunate enough to see it. We reproduce here some remarkable photographs obtained of the phenomenon. That of the Corona, at the moment of totality, is a reproduction of the official photograph taken at Giggleswick, where the eclipse was observed by the Astronomer Royal (Sir Frank Dyson) and his party from Greenwich Observatory. The phenomenon known as "Baily's Beads" (illustrated by Mr. Scriven Bolton, F.R.A.S., on page 7 of this number), is named after a famous

CIAL PHOTOGRAPH; PHASES; AND "BAILY'S BEADS."

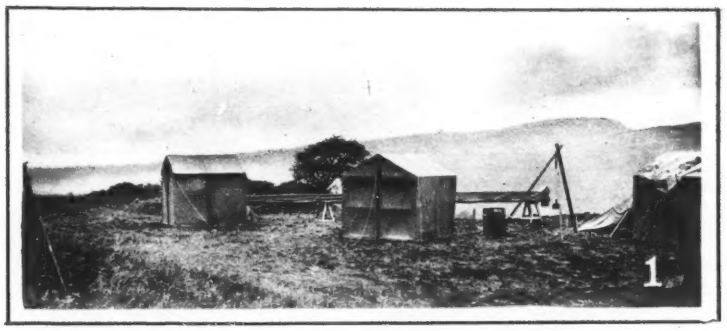
6. THE OFFICIAL PHOTOGRAPH TAKEN AT GIGGLESWICK ON JUNE 29: THE SUPREME PHASE IN THE TOTAL ECLIPSE OF THE SUN—TOTALITY—THE MOON COVERING THE SUN'S DISC AND SURROUNDED BY THE SOLAR CORONA.

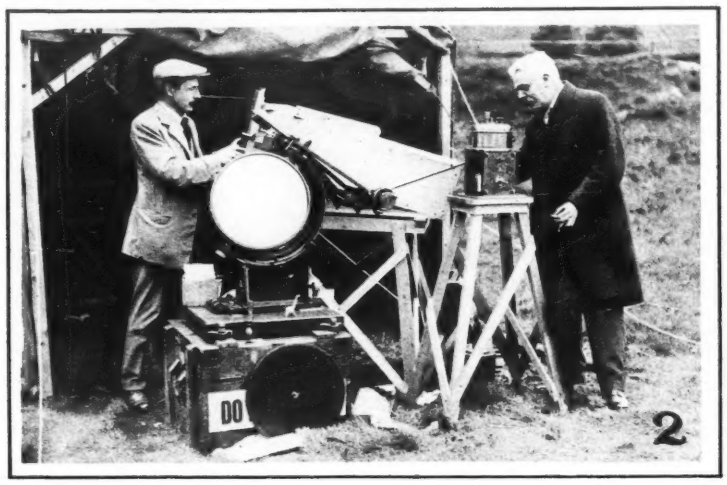
English astronomer, Francis Baily (1774—1844). The origin of the term is thus described in the "Dictionary of National Biography": "On May 15, 1836, while watching an annular eclipse of the sun at Inch Bonney, near Jedburgh, he witnessed a phenomenon to which he first directed explicit attention, and which, from his vivid description, received the name of 'Baily's Beads.' It consists in the breaking-up of the fine solar crescent visible at the beginning and end of central eclipses into a row of lucid points, the intervals separating which at times appear to be drawn out, as the moon advances, into dark lines or belts; the whole being a combined effect of irradiation and the inequalities of the moon's edge. Baily's narrative excited strong interest."

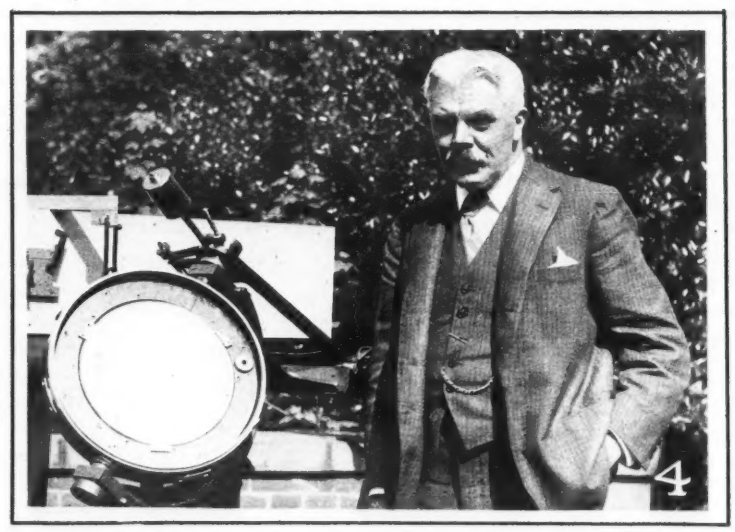
APPARATUS USED TO OBSERVE THE ECLIPSE.

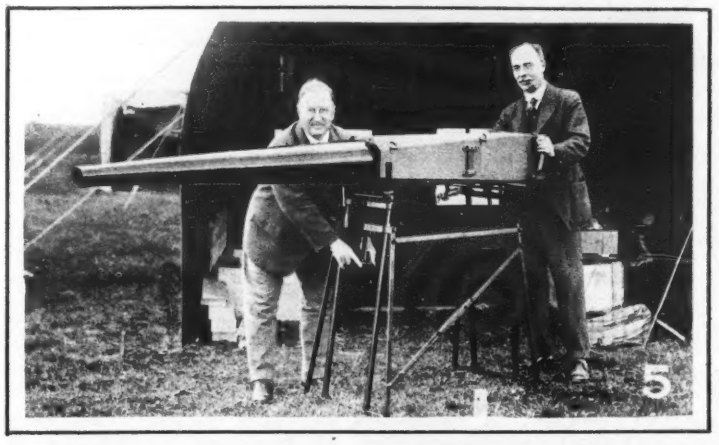
THE ASTRONOMER ROYAL AND OTHERS WITH THEIR INSTRUMENTS.

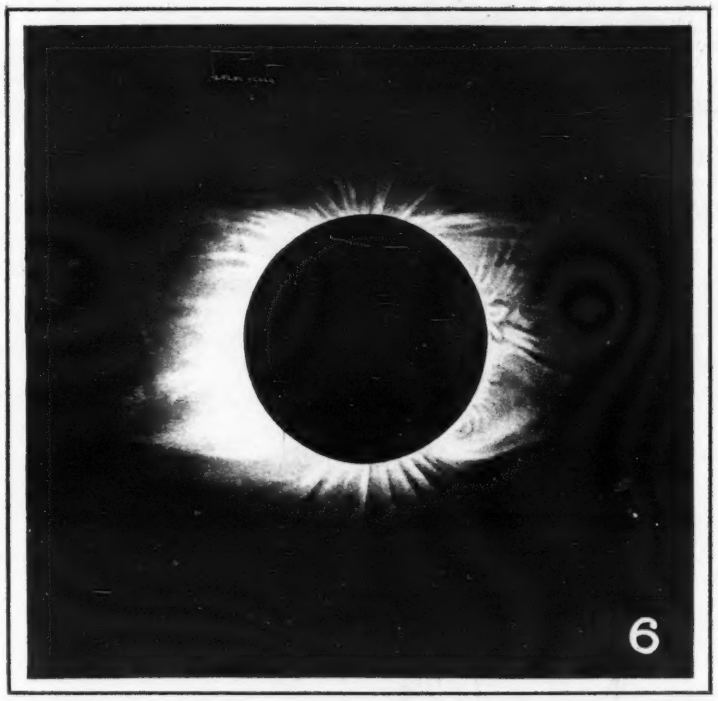
ILLUSTRATION No. 6 FROM A DRAWING COMMUNICATED BY THE ASTRONOMER ROYAL TO A MEMOIR OF THE ROYAL ASTRONOMICAL SOCIETY.











1. THE 45-FT. CAMERA USED BY THE ASTRONOMER ROYAL AND HIS PARTY FROM GREENWICH: THE CAMERA AT GIGGLESWICK (WITH A CROSS IN THE SKY MARKING THE SUN'S POSITION AT THE TIME OF TOTALITY).
2. THE ASTRONOMER ROYAL, SIR FRANK DYSON (ON RIGHT) INSPECTING A SPECTROSCOPE, WITH MR. A. DAVIDSON, A MEMBER OF THE GREENWICH PARTY AT GIGGLESWICK.
3. PREPARING FOR A CINEMATOGRAPH RECORD OF THE ECLIPSE: AN ASTRONOMER MANIPULATING HIS CAMERA WITH ITS GREAT FOCAL LENS, TO PHOTOGRAPH THE SUN REFLECTED INTO THE MIRROR (ON RIGHT), AT GIGGLESWICK.
4. SIR FRANK DYSON, THE ASTRONOMER ROYAL, BESIDE THE SPECTROSCOPE WHICH WAS TAKEN FROM GREENWICH OBSERVATORY TO GIGGLESWICK FOR USE DURING THE ECLIPSE.
5. DR. W. J. S. LOCKYER AND CAPTAIN W. M. MCLEAR, WITH THEIR LARGE 8-FOOT CAMERA FOR PHOTOGRAPHING THE ECLIPSE: THE INSTRUMENT USED AT RICHMOND, YORKSHIRE.
6. THE TOTAL ECLIPSE OF MAY 18, 1901: A REMARKABLE DRAWING MADE IN MAURITIUS, SHOWING PHASES OF THE CORONA, INCLUDING A TRIPLE ARCH IN THE SOUTH EAST QUADRANT.
7. PROFESSOR H. H. TURNER, OF THE OXFORD UNIVERSITY OBSERVATORY, WITH HIS APPARATUS AT SOUTHPORT: ADJUSTING THE COELOSTAT.

The Astronomer Royal, Sir Frank Dyson, and others from Greenwich Observatory, occupied a site in the grounds of Giggleswick School. Their chief objects were to get a direct photograph of the corona and two spectroscopes. The Oxford University Observatory party under Profesor H. H. Turner were in the grounds of King George V. School at Southport. The above drawing (No. 7), made during the eclipse of 1901, is accompanied by the following note: "Taken at Pamplemousses, Mauritius, by Mrs. Maunder. . . . Duration of totality, 3 min. 32·5 seconds. The detail shown in the Corona supplements that obtained with the Dallmeyer Coronograph. In particular, the appearance of the large prominence on the east limb and of the surrounding Corona is confirmed. The triple arch over the prominence in the S.E. Quadrant is well shown. Two interesting features appear in the solar plumes. At the North Pole they are crossed by a sharply defined ray, whilst at the South Pole the outermost rays of the equatorial streamers are shown crossing the polar rays."